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Abstract

The turning point in the postwar economic development of West Germany was 1973, not 1968. But the massive increase of the world prices for energy in 1973 did not hit an economy with bright prospects for stable growth rates and low inflation. Contrary, the pattern of economic growth of the 1960s was not sustainable. Union wage restraint despite extremely tight labor markets, limited exchange rate adjustments despite mutually incompatible objectives of domestic macroeconomic policies and huge, but largely unrecognized negative externalties from the extensive use of cheap energy and environmental resources inevitably required adjustment. But the institutions and attitudes that underpinned the postwar economic prosperity were incapable to engineer gradual change. Rather, the political and economic events of the late 1960s and early 1970s triggered off rapid adjustment requirements that culminated in rising inflation and stagnating output – the stagflation of the mid 1970s.

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"1968" and the German Economy[1]

In order to understand the impact of "1968" on the Germany economy, we have to view "1968" against the background of the general economic development of the Germany economy.[2] In doing so, we have to distinguish between trends, cycles, events and their interaction. During the 1960s and early 1970s, the trend development of the German economy was characterized by continuous booming conditions with very high productivity growth, excess labor demand and stagnating energy productivity. The cyclical development shows a rather unstable and gradually overheating economy, which experienced its first postwar recession in 1967 and a powerful and long-lasting upswing, accompanied by a massive surge of inflation, from 1968 onwards. The political events of "1968" – notably the student revolt on the campuses of Western Universities, labor unrest in many European countries, the increasing fragility of the international monetary system, the Vietnam war and the removal of the Dubçek government enforced by Warsaw pact troops – did not have an immediate impact on the German economy. Their effects were felt later on.

This paper argues that not 1968 but 1973 was the turning point in the postwar economic development of West Germany and, indeed, the entire Western world. But the events of 1973, namely the massive increase of the world prices for energy and other primary products, did not hit an economy with bright prospects for stable growth rates and low inflation. Contrary, the pattern of economic growth of the 1960s was not sustainable. Union wage restraint despite extremely tight labor markets, limited exchange rate adjustments despite mutually incompatible objectives of domestic macroeconomic policies and huge, but largely unrecognized negative externalties from the extensive use of cheap energy and environmental resources inevitably required adjustment. But the institutions and attitudes that underpinned the postwar economic prosperity were incapable to engineer gradual change. Rather, the political and economic events of the late 1960s and early 1970s triggered off rapid and partly overshooting adjustment requirements that culminated in rising inflation and stagnating output – the stagflation of the mid 1970s.

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1 For helpful comments, I would like to thank Bart van Ark, Rainer Fremdling, Elvira Groenewoud, Jakob de Haan, Herman de Jong and the editors of this volume.

2 For general overviews, see for example Hennings (1982), Abelshauser (1983), Scharpf (1991), Giersch/Paqué/Schmieding (1992) and Lindlar (forthcoming). On monetary developments and industrial relations, see Deutsche Bundesbank (1976), Kloten/Ketterer/Vollmer (1985), Müller-Jentsch/Sperling (1978) and Flanagan/Soskice/Ulman (1983).

However, the adjustment crisis of the 1970s was far less severe than viewed by most contemporaries. Despite permanently higher unemployment rates, temporarily increasing inflation rates and a lasting deteriorating of public budgets balance: the economic and the political foundations of the western world, even more so of West Germany, remained largely intact and capable of adjustment.

Trends – the Boom Continued

From 1948 to 1973, Germany experienced its most rapid economic growth in history. Whereas the late 1940s and the 1950s had been characterized by reconstruction after the war and the political division, the 1960s saw the consolidation of postwar prosperity, with rapid productivity growth, extremely low unemployment, an investment boom without historical precedent, increasing trade integration and rapid structural change. Compared to the 1950s, the growth of GDP slowed down substantially, from 8.8 percent to 4.4 percent.[3] For this, three reasons can be found: (i) The labor market became very tight after full employment had been reached at the end of the 1950s, and the stream of East German immigrants had dried out following the construction of the Berlin Wall in 1961, (ii) working hours were substantially reduced, from an annual average of 2,150 hours in 1960 to 1,870 hours in 1973, and (iii) the growth potential specific to the reconstruction period, namely low capacity utilization, structural distortions, various bottlenecks, as well as a general backlog in structural change and capital accumulation, did no longer exist.

Productivity growth remained by far higher than anything achieved before 1950. This was not only true for Germany but for all Western European countries. It was based on a process of catching-up with the U.S.[4] From 1960 to 1973, Western Europe could narrow its gap relative to the U.S. from 55 percent to 35 percent of U.S. labor productivity.[5] Those countries that had initially lagged the U.S. most were able to achieve the highest productivity growth rates. This catching-up process was driven by strong and increasing investment in physical capital, education as well as research and development,[6] by the contraction of agriculture,[7] by efficiency gains due to increasing international trade specialization, by technology imports from advanced countries and

3 Table 1.

4 Abramovitz (1979), Maddison (1991), Baumol et al. (1994).

5 Lindlar (forthcoming), chapter 2.

6 Table 1.

7 Lindlar, ibid., chapter 7.

by extensive use of relatively cheap energy and natural resources[8] bothered by few concerns for the environmental implications of growth.

Because structural change was largely driven by growth and a substantial part of technology imports depended on investment, there were substantial indirect productivity effects from the boom in investment. Wages rose more or less in line with productivity growth while interest rates remained stable and commodity prices improved far more slowly; hence, the growth path became increasingly characterized by the use of capital-, energy- and resource-intensive production technologies, often based on mass production methods. Compared to the 1950s, the annual average growth rate of capital intensity nearly doubled, while energy productivity did not improve at all. [9]

Growth was export-led in the sense that exports contributed a substantial part to total demand and grew consistently faster than GDP.[10] Exports grew at an average yearly rate of 8 percent in real terms, i.e., twice as rapid as GDP. Two reason can be found for this:[11] (i) International trade and payments were further liberalized on a multilateral basis within the framework of GATT and the Bretton Woods system and on a rather discriminatory basis within the European Economic Community, founded in 1957. During the 1960s, exports to the other EEC member states accounted for more than a quarter of the total increase of Germany's export demand, compared to 10 percent in the preceding decade. (ii) Economic growth in Western Europe continued to be high. In many countries, growth rates even accelerated when compared with the 1950s. Since rapid growth also meant booming import demand and, via increasing income per capita, a greater potential for intra-industry trade, export demand was booming as well. Being the largest natural trading partner in Continental Europe by virtue of size, degree of industrialization and geography, Germany was in a particular favorable position to harvest the fruits of trade liberalization. For these and for political reasons, Germany was also at the center of the institutional integration of the European economy.[12] From the onset of the postwar boom, Germany specialized in exports of machinery, transportation equipment and chemicals as it had done before the war. These technology-intensive products belonged to Germany's key assets during the 1950s and 1960s as its major trading partners experienced historically unprecedented booms in investment.

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8 See also the contribution of Jens Hohensee, this volume.

9 Table 1.

10 Graph 1.I.

11 Lindlar (forthcoming), chapters 2 and 5.

12 Lindlar/Holtfrerich (1996).

The 1960s and early 1970s were characterized by extreme labor scarcity. For most of this period, the rate of unemployment was below one percent.[13] By any comparison, this was a very unusual situation for a peacetime market economy. Substantial immigration of so-called guest workers, mostly from Southern Europe and Turkey, released at least some of the pressure in the tight labor market. The share of foreign labor in total employment increased from as low as 1.4 percent in 1960 to 6.3 percent in 1969, reaching its peak in 1973 at as high as 10.8 percent or 2.5 million in total.[14] During the 1960s effective wages rose consistently faster than contractual minimum wages as determined by collective bargaining.[15] This clearly indicates substantial wage restraint on the union side. Although the wage share increased at the beginning of the 1960s, its trend remained stable until the early 1970s.[16]

There is also evidence of wage restraint in other Western European countries, either institutionalized by formal arrangements or caused by excess labor supply.[17] Real wages rose in line with productivity growth or by less; however, they did not exceed it. Many governments used income policies, i.e. the participation of unions and employers associations in macroeconomic-policy decisions, to sustain wage discipline. Income policies inherited from the reconstruction periods or became increasingly adopted with rise of Keynesian hegemony in economic policy making. The wage restraint was facilitated by dramatic improvements in living standards, the continuous extension of the system of "social wages" (i.e. the welfare state) and the institutionalized system of collective bargaining with legal guaranties for unions to act on behalf of their members. The Bretton Woods-system of fixed exchange rates enforced wage discipline in collective bargaining because unions and employers' associations knew that the central bank would defend the exchange rate and the external balance in face of excessive domestic cost pressure.[18] Only on rare occasions, exchange rates were realigned.

Cycles – An Unstable and Overheating Economy

West Germany's economic boom of the 1960s was driven by strong demand pressure, particularly in exports. During the first half of the 1960s, the growth of GDP largely

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13 Graph 1.VII.

14 *Statistisches Jahrbuch für die Bundesrepublik Deutschland*, various issues; Giersch/Paqué/Schmieding (1992), p. 127.

15 Giersch/Paqué/Schmieding (1992), p. 133.

16 Graph 1.VI.

17 Table 2.

18 Eichengreen (1993), pp. 634-639.

followed that of exports.[19] In contrast with the 1950s, domestic demand played a more important role. Largely due to the increasing contributions of the public sector, the share of investment in GDP reached the historically unprecedented level of 25 percent;[20] governments gradually increased the share of their expenditures and reduced their budget surplus.[21] A slowdown during the first half of 1963 was short-lived and GDP continued to grow at more than 5 percent.

Inflationary pressure was moderate but well above the 2 percent per annum, currently preferred by many central banks.[22] The rather high rate of inflation cannot be merely interpreted as an outcome of expansionary monetary policies in the western world. To some extent, it was endogenous to the catching-up process: The high rate of productivity growth in the tradable sector (i.e. industry and agriculture) drove up real wages in whole economy and thereby caused a cost-pressure in the non-tradables sector (i.e. services) where productivity growth was less rapid.[23]

By the end of 1965, the public budget moved into deficit, albeit moderately. However, for the Bundesbank the situation was considered to be rather dramatic because the balance of trade turned negative at the same time. In order to impose more discipline on public budgets, the Bundesbank raised the discount rate and the German economy slid, despite continuing export demand, into its first postwar recession.[24] GDP declined by 1 percent from mid-1966 to mid-1967 while the rate of unemployment rose from 0.5 percent to 1.9 percent. The 1967 crisis, in particular the rise in unemployment, came as a shock to a country accustomed to quasi-automatically improving living standards and a high degree of economic and social stability for almost two decades.

Largely due to a combination of expansionary monetary and fiscal policies and strong wage restraint,[25] the economy recovered swiftly. Exports did not serve as a major impulse[26] because its growth rate had remained very high throughout the recession. In the second half of 1968 the growth rate of GDP peaked at 7 percent. Unem-

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19 Graph 1.I.

20 Graph 1.II.

21 Graph 1.V.

22 IMF (1995), pp. 30-31.

23 See Balassa (1964); this can be confirmed for West Germany, using data from DIW (1977) and calculations by the author.

24 Emminger (1977), a former member of the Bundesbank directorate, that a previous erosion of profit margins through excessive wage pressure was more important for the extent of the recession, is not supported by the evidence reported in graph 1.VI.

25 Graph 1.IX, 1.V, 1.VI.

26 As claimed by Giersch/Paqué/Schmieding (1992), p. 147.

ployment dropped again below the one-percent margin and investment gradually recovered to the postwar peak it had reached in the first half of the 1960s. In response to contracting domestic demand, the balance of trade returned to a high surplus.

The prospects for further growth were apparently bright. But the rate of inflation jumped from 2 percent in early 1968 to 8 percent in early 1970,[27] which was even higher than the combined rate of inflation of the remaining Western European countries.[28] This was mainly caused by a dramatic increase of unit labor costs in 1969[29] and not by external pressures . The appreciation of the German mark in the late 1960s should even have dampened the domestic rate of inflation via cheaper imports.[30]

Inflationary pressure did not diminish in the following years; the rate of inflation remained well above 5 percent. But the boom continued. From 1968 to 1973, i.e. within only five years, domestic product increased by nearly 30 percent in real terms. This was entirely due to gains in productivity.[31] The trade surplus and the investment share remained high, and the budget was more or less balanced; the economy showed clear signs of overheating, but certainly not of crisis.

Events – Did 1968 matter?

Between 1968 and 1973, the German economy was in a period of transition. Rapid recovery from the first postwar recession in 1967 and union wage restraint led to an unexpected boost in profits. The wage restraint was engineered by the Karl Schiller, a social democrat who had been appointed as minister for economic affairs in the first "grand-coalition" government (i.e., a coalition formed in 1966 by the two major parties, the conservatives and the social democrats). Schiller, a former professor of economics with the rare ability to make rather technical economic issues to the center of political debate, convinced unions to restrain their wage demand in order to enhance the effectiveness of a more expansionary fiscal and monetary policy. On the fiscal policy side, a number of additional expenditure programs for public investment were set up by the federal state, the *Länder* and the local authorities. On the monetary side, the Bundesbank, surprised by the extraordinary strong impact of its previous monetary break on output and employment, lowered interest rates fairly quickly to the pre-recession level.[32] Unions accepted the political guideline for nominal wage increases of

27 Graph 1.III.

28 Graph 2.

29 Graph 1.III.

30 Graph 1.XI.

31 Graph 1.XII.

32 Graph 1.IX.

3.5 percent which amounted to nearly stagnating real wages. In May 1968, the wage restraint was extended by a long-term contract to be discontinued not before the end of September 1969.[33] The union leadership, deeply concerned about bringing the rate of unemployment down to the pre-recession level, settled for a 4.2 percent wage increase. This was at the low end of the new wage guideline proposed by the government.

All this happened in a political climate characterized by the end of the long-lasting conservative hegemony. The first participation of the Social Democrats in the Federal government from 1966 onwards contributed to the increasing popularity of the Keynesian idea of fine-tuning the economy (*Globalsteuerung*). This was considered to be the joint effort of monetary, fiscal and wage policies. In order to achieve this goal, the strategies of the major economic policy makers had to be coordinated. The legal foundations were provided by the "law to promote economic stability and growth" (*Gesetz zur Förderung der Stabilität und des Wachstums der Wirtschaft*) which required the fiscal authorities and, to a lesser extent, the Bundesbank to coordinate their actions in order to achieve high growth, stable prices, low unemployment and an external balance. The law, passed in 1967, was heralded by German Keynesians as a necessary macroeconomic supplement to the principles of the "Social Market economy", mostly aimed at providing the legal framework for functioning markets on a microeconomic level. As a natural outgrow of these efforts, as well as the governments' participation of the Social Democrats, unions were invited to participate in the economic policy formation, together with their counterparts on the employers' side (*konzertierte Aktion*), for the first time in postwar history.

The rapid upswing since the second half of 1967 was widely attributed to the new policy. However, the combination of an expansionary demand policy and very moderate wage settlement at persistently booming export demand seem to have overdone it. The economy recovered unexpectedly rapid. Because wages were not allowed to pick up as the labor market returned to the state of extreme labor scarcity, firms experienced a spectacular boost in profits, partly due to rising capacity utilization and partly due to a declining wage share.[34] The union leadership, locked in a 18-month contract, could do nothing but wait. Meanwhile, dissatisfaction among the rank-and-file about the union leadership rose. The opposition was mainly organized by shop-stewards, and it found increasingly support by the membership. On top of that, a series of wildcat strikes of unskilled workers in September 1969 further challenged the authority of the union leadership.

33 Bergmann/Jacobi/Müller-Jentsch (1979), pp. 246-249.

34 Graph I.VI.

In order to restore the "social symmetry" and its own legitimacy, the union leadership responded by demanding double-digit wage increases in late 1969 and in 1970. Companies, having made ample profits in the upswing, found it difficult to resist. Since inflation was accelerating everywhere in Europe, employers were able to pass on a large part of wage demands in form of higher prices without loosing their competitiveness. The acceleration of inflation and the build-up of generally inflation-oriented expectations inaugurated the end of almost two decades of moderate inflation. The Bundesbank had to accommodate much of the price increases by an expansion of the money supply because the Bretton Woods system of fixed exchange rates, combined with increasingly mobile international capital flows, did not allow for countermeasures with lasting impact. The sharp rise in the discount rate in 1969 did hardly effect the long-term interest rate and the investment rate at all.[35]

The wage explosion created an unsustainable situation, not , however, because it reduced profits.[36] The share of investment in GDP even increased in 1970 and 1971[37] while the rate of unemployment remained below one percent of the total labor force. One explanation can be found in the rising rate of inflation which was unexpected by financial markets accustomed to a long period of monetary stability. This led to a strong decline in real interest rates,[38] easing the external financing of investment expenditures and raising the opportunity costs of postponing investment (i.e. holding financial assets or increasing consumption). The real interest rate declined from more than 4 percent in 1969 to zero in 1971, the lowest level ever since 1948. Furthermore, due to imperfect product markets and the previous wage restraint by unions, firms were earning profits above cost. Hence, wage increases well above productivity growth would not necessarily imply massive layoffs but rather a profit squeeze. Finally, Germany could substantially improve its terms of trade through a combination of a real appreciation of the German mark and a relatively inelastic demand for German export goods.[39] This eased the wage pressure on the firms in the tradable sector of the economy.

But the sudden shift in wage policy from restraint, even deflation, to a double-digit wage increase was clearly a threat to "price stability" because firms had to increase their output prices in order to prevent their profit margins to erode. Once inflation started to accelerate, people learned to adjust to the new environment: wage agree-

35 Graph I.X, I.II.

36 Graph I.VI.

37 Graph I.II.

38 Graph I.X.

39 Graph I.VIII; Lindlar (forthcoming), chapter 6.2.

ments, long-term business contracts, rent increases, and interest charges on bank credits were based on the assumption of a permanently higher rate of inflation. The situation was accentuated by the oil price shock of 1973 and another double-digit wage hike in the public sector in 1974.[40] Given that inflationary expectations would adjust only slowly downward, it was likely that a more restrictive monetary policy would cause substantial output and employment losses. When the Bretton Woods system broke down in 1973, the Bundesbank immediately seized the opportunity to combat inflation vigorously and raised the discount rate to 7 percent by the end of 1973. It remained restrictive throughout the following year despite the German economy's slide into recession.

Wage explosion was not just a German phenomenon. In fact, it occurred all over Europe.[41] Compared to the mid-1960s, nominal wage increases nearly doubled in the four largest countries during the late 1960s or the early 1970s.[42] The small economies also experienced a substantial increase in nominal wages. The almost identical wage increase in Western Europe suggests that similar forces were at work. Basically, the wage push started in France and reached Germany and Italy with a one-year lag and the remaining European countries with a two-year lag. Real wages increased by far less, because firms tried to shift higher wage costs onto prices in order to sustain their profit margins. They were not completely successful, because real unit labor cost (i.e. the wage share) increased in almost every countries. However, only in Germany did unit labor cost increase by more than the amount by which it had previously declined.

In most countries, wage explosions were initiated by increased union militancy.[43] The number of days lost to strikes nearly tripled in Italy, the United Kingdom and the smaller countries; France even experienced a nation-wide strike in May 1968 which shook the political foundations of the Fifth Republic. All this did not happen in Germany. The wildcat strikes in September 1969 did only mildly resemble the strike wave in other European countries. Why could such a small increase in worker militancy cause such a strong increase in wages? First, the long wage moderation following the shock of the 1966/67 recession eventually required a sizable upward adjustment of real wages during the upswing. Second, the unions' rank-and-file members felt increasingly cheated by its own leadership whose role in Schiller's income policy was considered to be far to docile. Given that the economy continued to boom in 1969

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40 Graph 1.III.

41 For more details, see Nordhaus (1972), Soskice (1978), Sachs (1979), Flanagan/Soskice/Ulman (1983), Bruno/Sachs (1985), Lindberg/Maier (1985) and Armstrong/Glyn/Harrison (1991).

42 Table 2.

43 See also the contribution of Gerd-Rainer Horn, this volume.

and 1970, a fairly aggressive wage policy was the best response of the union leadership to restore its own legitimacy. Finally, the strike-wave all over Europe, in particular the combination of radical student protest and worker unrest during the events of May 1968 in France, nurtured fears among the traditionally cooperative German unions that things might also get out of control in their own country. Considering that strikes in Germany are almost exclusively organized by unions and that there are strict legal and organizational requirements to be fulfilled before a union can announce a strike, even the slightest trace of militancy among workers, particularly among unskilled one, was interpreted as a warning sign.

The "September strikes" received much attention from the new left whose intellectual ideas found increasingly attention in politics, the liberal media and the younger union membership. The ideas of capitalism as a system of antagonistic class relations and of profits being based on the exploitation of workers gained credibility in a society where, for a long time, Marxism had been stigmatized as anathema. While the increasing influence of Keynesian economics principally favored responsive wage policies, the spread of radical left-wing ideas among rank-and-file members contributed to its erosion.

Certainly, the wage explosion can also be interpreted in purely economic terms as a delayed adjustment caused by the conjunction of structural labor scarcity and by the overly cautious wage guideline of Schiller's income policies.[44] However, this "adjustment" took form as a double-digit increase in labor unit costs without any immediate external pressure. This kind of wage hike would have been unthinkable ten years ago when the conservative hegemony was at its peak of its influence, strongly backed all major mass media. Hence, the events of "1968" are part of the story that explains why the long postwar prosperity did not gradually move to a phase of "normal" growth but ended with high inflation, world-wide recession, rising unemployment and deteriorating public-budget balances.

Yet, did this "events" really contribute, in a causal sense, to the end of postwar prosperity? Or did they merely trigger of an adjustment process that had "deeper", i.e. structural, causes?

Evaluation

Let us first recapitulate the logic of the unfolding events: The political events of 1968 that shook the Western World did not have an immediate impact on the Germany economy, which, at that time, was recovering from its first postwar recession. Growth

44 Soskice (1978).

quickly rebounded, export demand boomed, investment picked up, while the labor market again showed signs of extreme labor scarcity. Inflationary pressures emerged. However, the increase in the inflation rate – from 2 percent in early 1968 to 8 percent in early 1970 – was not merely an effect of the economy overheating. Rather, Germany, like most other Western European economies, experienced a sharp wage explosion. Unlike many developments abroad, double-digit pay increases in Germany were not inaugurated by a wave of massive strikes. Instead, they came about because the upswing was much more rapid than expected and unions found themselves locked into a two-year wage restrain which did much more than to promote the upswing: it led to a profit explosion. This challenged the legitimacy of the union leadership, not only from inside but also by a series of wildcat strikes among unskilled workers in September 1969.

The union leadership largely regained its credibility by accomplishing double-digit wage settlements. But companies were able to restore their profit margins via higher prices because no serious loss in competitiveness had to be expected: Inflation was accelerating all over the western world. The Bundesbank, constrained by the Bretton Woods system of fixed exchange rates, found herself unable to counteract these developments effectively. However, this state of affairs would not last for long. The fight against inflation became possible again when the Bretton Woods-system collapsed in 1973. Soon after monetary tightening set in, a major hike of energy and other commodity prices hit an economy geared towards extensive use of cheap energy. On top of that, public sector unions demanded wage increases which were clearly not compatible with the need to adjust to monetary restriction and deteriorating terms of trade. The fight against inflation was finally won, but it clearly had a price: a particularly deep recession in 1975 and a permanent rise in the unemployment rate.

Are the fairly aggressive wage policies of the unions to blame for this outcome? Or Schiller, the minister for economic affairs, whose misjudged income policy in 1967/68 laid the foundation for the first wage hike and the subsequent distrust of unions' towards another income policy? Or perhaps the Bundesbank, who overdid its strive for a lower rate of inflation in face of an economy sliding into a deep recession? Many contemporary and retrospective observers came to conclusions like these; the assignment of responsibilities naturally depended on their basic economic understanding, be it supply-side or Keynesian. This approach, which we might call "voluntarist", is also prevalent in the McCracken report of the OECD on the causes of the world economic crises of 1974/75.[45] Most proponents of this approach implicitly assume that the growth pattern of the "long 1960s" could have been sustained, had the

45 McCracken et al. (1977).

major policy actors not committed major mistakes, or had they not exploited changing circumstances unduly to their own favor.

Yet, there is an other interpretation which we might call "structuralist". This approach sees the drama unfolding since the end of the 1960s as the consequence of an unsustainable growth process. First, the wage restraint despite a persistent excess demand created a disequilibrium on the labor market. Search and structural unemployment was substantially below the equilibrium rate. Labor demand was quantity constraint in the sense that firms could not find more workers by simply raising the wage rate. Instead, they had to increase non-wage benefits or, more likely, the capital intensity of production through rationalization measures.[46] A situation of permanently repressed real wages was certainly not in the long-run interest of unions, and it was quite likely that they would eventually demand what market forces would have brought about anyway: an increase of real wages above productivity growth.

Second, the major actors of the Bretton Woods-systems were increasingly unwilling to follow the rules of the game. The U.S. partly financed its military commitment in Vietnam by budget deficits. This fueled inflation at home and abroad, thereby extracting seignorage from cash holdings of domestic residents and from dollar reserves of foreign central banks. Countries less depending on the U.S. military shelter like France exploited the growing weakness of the U.S. dollar by exchanging their U.S. currency against U.S. gold reserves. Hard-currency countries like Germany resisted a stepwise revaluation of their currency ("adjustable peg") because the export industries were able to mobilize tremendous political support against it. Weak-currency countries like Britain delayed devaluations – generally considered to be as a sign for economic problems – until a speculative attack against the currency or a major disruption in the domestic economy triggered off a balance-of-payments crises. Given the increasingly inconsistent objectives of its major participants, the Bretton Woods-system of fixed-currency was no sustainable foundation for the western world economy.

Finally, the stagnating energy productivity and the extensive use of environmentally and health-damaging materials in industrial production generated substantial negative externalties which the public, however, became only gradually aware.

Eventually, relative prices had to adjust: real wages had to rise faster than productivity, the D-mark had to appreciate as well as the cost of energy and resource use had to increase. But the adjustment to a more sustainable macroeconomic development did not follow a gradual pattern. The institutions and attitudes that underpinned the postwar economic prosperity stood in its way. The prevalent economic dogma suggested that wage restrain was always good for growth. A powerful lobby of industry

46 Gerstenberger (1980), pp. 79-97.

associations argued that revaluation was bad for the domestic economy. And the need to improve the productivity of energy use and to reduce the environmental damages of growth was hardly considered at all. In consequence, the cost of adjustment gradually built up: The longer the wage restraint persisted, the more likely it was that an upward adjustment of nominal wages would create strong and lasting inflationary pressure as well. The longer the domestic rate of inflation was lower than abroad, the larger would be the number of industries sheltered from structural adjustment by an under-valued currency. And the longer the investment in energy- and resource-intensive production technology continued, the higher were the cost of adjusting the capital stock to less energy- and resource-intensive production methods.

The economic events of the late 1960s and early 1970s—the strike wave in the factories, the increasing speculation against currencies and the formation of a cartel by major oil-exporting countries—finally imposed the necessary requirements to adjust. Even if the economic events did not have the same timing as the political events, they clearly shared a similar logic: The institutions and attitudes that created and sustained the stability and the prosperity of the postwar world became increasingly incapable to adjust by themselves. Nevertheless, the political and the economic foundations of the postwar order survived the series of adjustment crisis that characterized the late 1960s and the early 1970s. This suggests that Germany's political and economic system had become fairly stable, perhaps for the first time in this century.

Table 1 *A Growth Account for the German Economy, 1950-1992*[1]

	1950-60	1960-73	1973-79	1979-92
Growth rates (in percent)[2]				
GDP	8.8	4.3	2.3	2.2
Employment	2.2	0.3	-0.3	0.8
Total hours worked[3]	1.8	-0.8	-1.3	-0.3
Labor productivity[4]	6.9	5.2	3.6	2.5
Capital intensity[5]	3.4	6.4	4.9	3.1
Total factor productivity[6]	7.4	4.2	2.5	2.0
Energy consumption[7]	4.6	4.6	1.3	0.0
Energy productivity[8]	4.1	-0.2	1.1	2.2
Investment shares (in percent of GDP)[9]				
Physical capital	21.9	24.9	20.8	20.5
Education expenditures[10]	2.5	3.6	5.2	4.7
R&D expenditures[11]	0.7	1.8	2.4	2.8
Total investment[12]	25.1	30.3	28.4	27.9

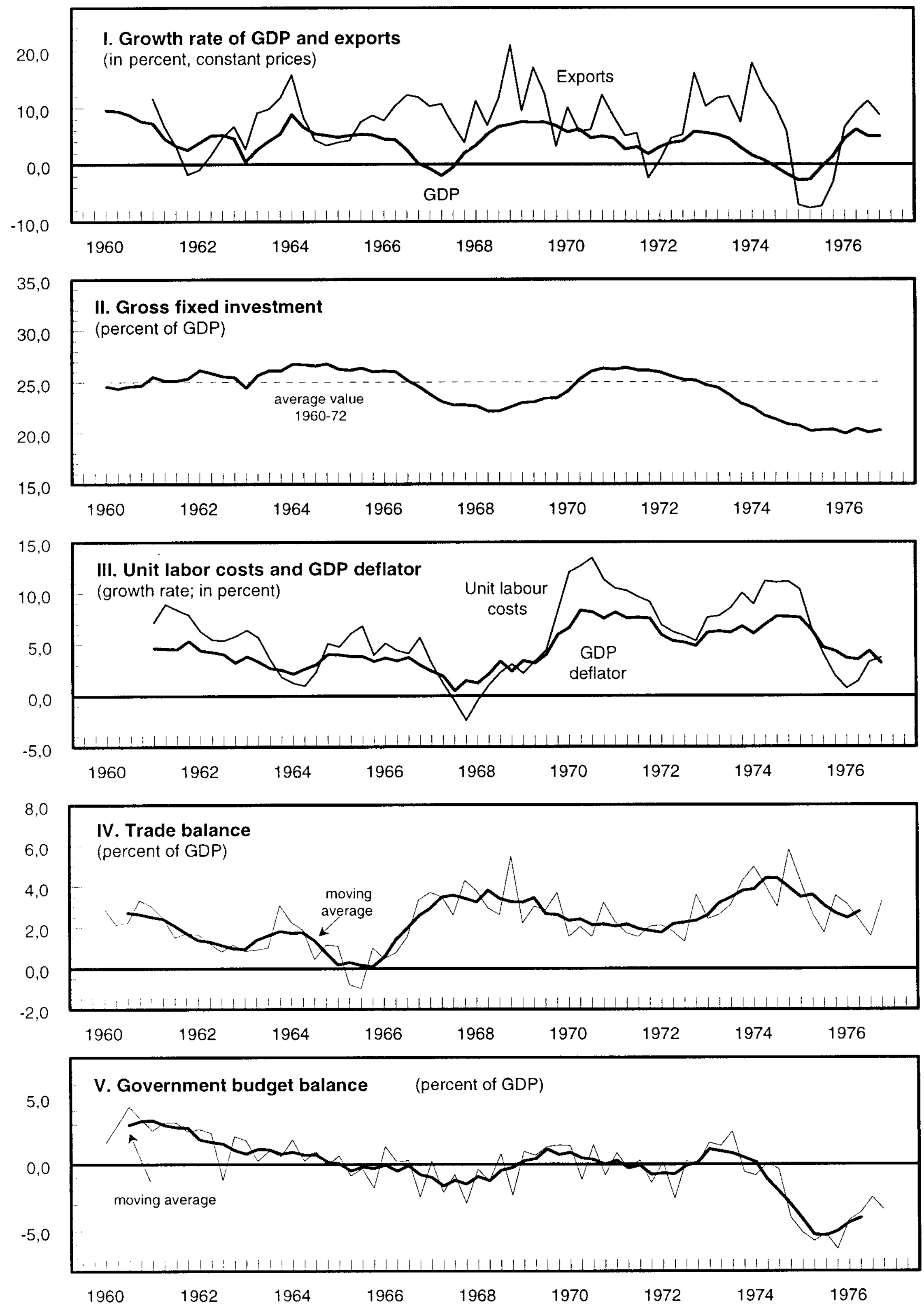
1 Old federal estates; peak-to-peak values. **2** GDP and physical capital stock at constant prices. **3** Number of persons employed times the annual average hours per person employed. **4** GDP per hour worked. **5** Physical capital stock per hour worked. **6** Growth rate of GDP less weighted growth rate of total hours worked and the physical capital stock; the adjusted wage share of 1965 was used as weight. **7** Primary energy consumption. **8** Primary energy consumption per unit GDP. **9** Current prices; 1961-73; 1974-79; 1980-92. **10** Only public expenditures. **11** Public and private research and development expenditures. **12** Sum of the investment shares. Sources: Statistisches Bundesamt, *Volkswirtschaftliche Gesamtrechnung*; Institut für Arbeitsmarkt- und Berufsforschung, *Arbeitsvolumenrechnung*; DIW, *Produktionsvolumen und -potential*; Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung, *Jahresgutachten*; Flora (1987), p. 324; Börnsen/Glismann/Horn (1985), p. 117; Bundesministerium für Bildung und Wissenschaft, *Grund- und Strukturdaten*; OECD, *Main Science and Technology Indicators*; calculations and estimates by the author.

Table 2 *The European Wage Explosion 1968-1971*

	mid 1960s[1]	late 1960s/early 1970s[2]	Change
Nominal wage increases (in percent)[3]			
Germany	5.0	12.9	8.0
France	6.1	11.0	4.9
Italy	7.9	11.7	3.9
United Kingdom	7.4	12.1	4.7
Small economies[4]	7.7	11.4	3.7
Real wage increases (in percent)[5]			
Germany	3.0	6.9	4.0
France	3.1	5.6	2.5
Italy	5.6	6.2	0.6
United Kingdom	2.4	3.8	1.4
Small economies[4]	3.1	4.6	1.5
Productivity growth (in percent)[6]			
Germany	4.2	4.8	0.5
France	3.1	5.6	2.5
Italy	6.3	5.9	-0.4
United Kingdom	3.3	3.0	-0.3
Small economies[4]	4.2	3.4	-0.8
Real unit labor cost (in percent)[7]			
Germany	-1.3	2.2	..
France	-1.3	0.9	..
Italy	-0.7	0.4	..
United Kingdom	-0.9	0.8	..
Small economies[4]	-1.1	1.2	..
Working days lost in strikes ('000)			
Germany	147	171	24
France	2.569	very large[8]	..
Italy	10.761	29.356	18.595
United Kingdom	4.774	12.265	7.491
Small economies[4]	74	457	383

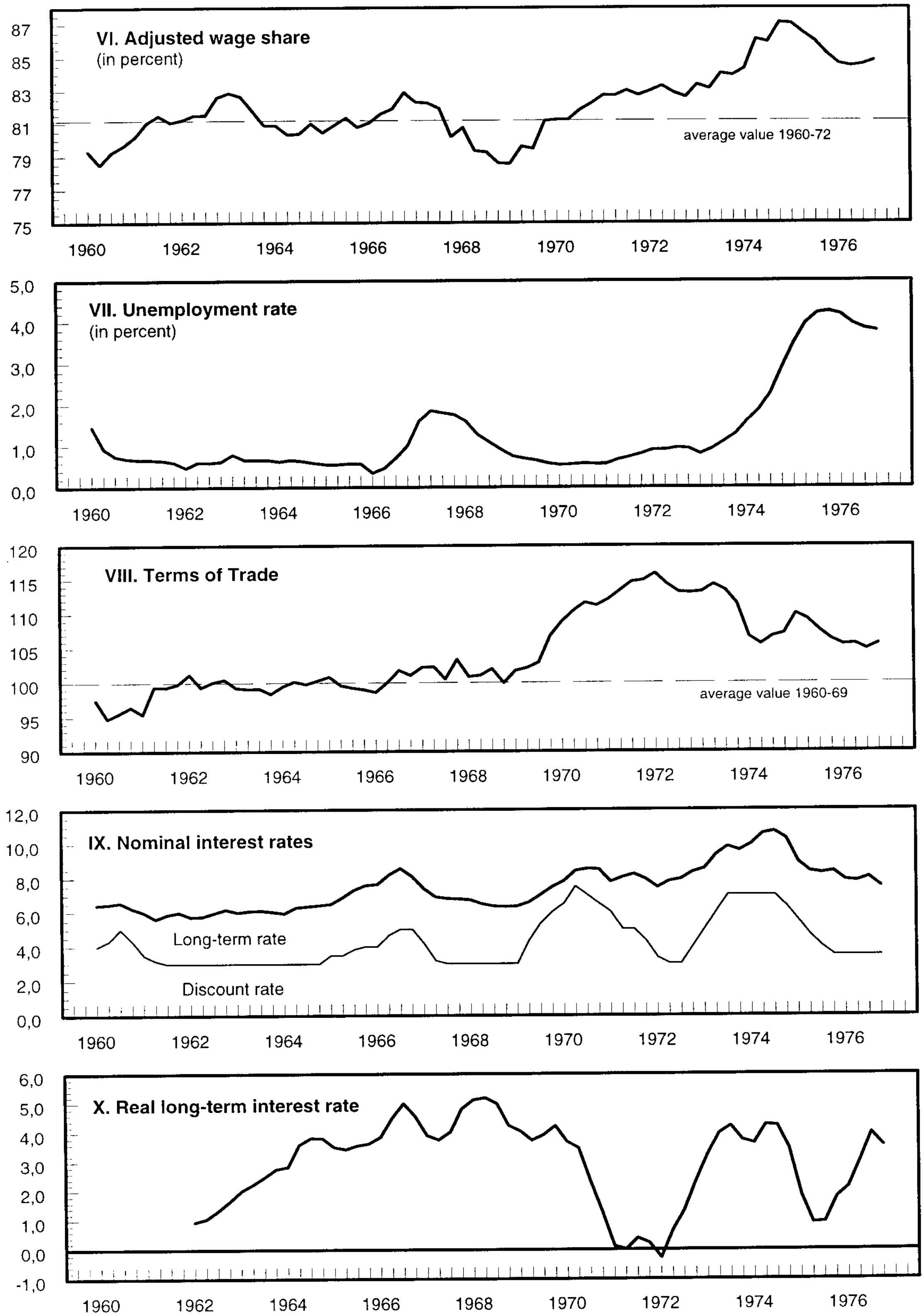
1 1965-67 for France, 1966-68 for Germany, Italy, 1967-69 for the remaining countries. – **2** 1968-69 for France, 1969-70 for Germany, Italy, 1970-71 for the remaining countries. – **3** Wages and salaries per employee, annual average rate of growth. – **4** Austria, Belgium, Denmark, Finland, Norway, Sweden, Switzerland; simple average, sum for working days lost. – **5** Nominal wages, deflated by the GDP deflator, annual average rate of growth. – **6** GDP per person employed at constant prices, annual average rate of growth. – **7** Real wage increases relative to productivity increases, annual average rate of growth. – **8** Nation-wide strike in May 1968; precise data are not available. Sources: OECD, *Main Economic Indictors Database*; Allsopp (1982), p. 85; calculations by the author.

Graph 1 *Selected Macroeconomic Indicators for the German Economy, 1960-1976* (quarterly, seasonally adjusted data[1])



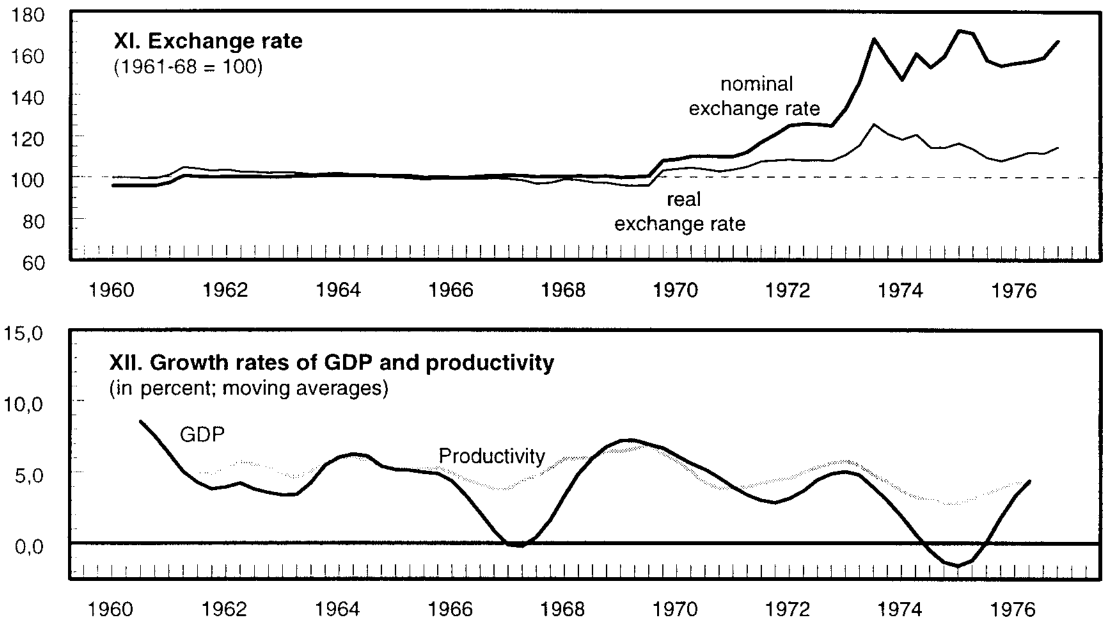
1 The years refer to the first quarter. Further comments and sources, see below.

Graph 1 (cont.) *Selected Macroeconomic Indicators for the German Economy, 1960-1976* (quarterly, seasonally adjusted data[1])



1 The years refer to the first quarter. Further comments and sources, see below.

Graph 1 (cont.) Selected macroeconomic indicators for the German economy, 1960-1976 (quarterly, seasonally adjusted data[1])

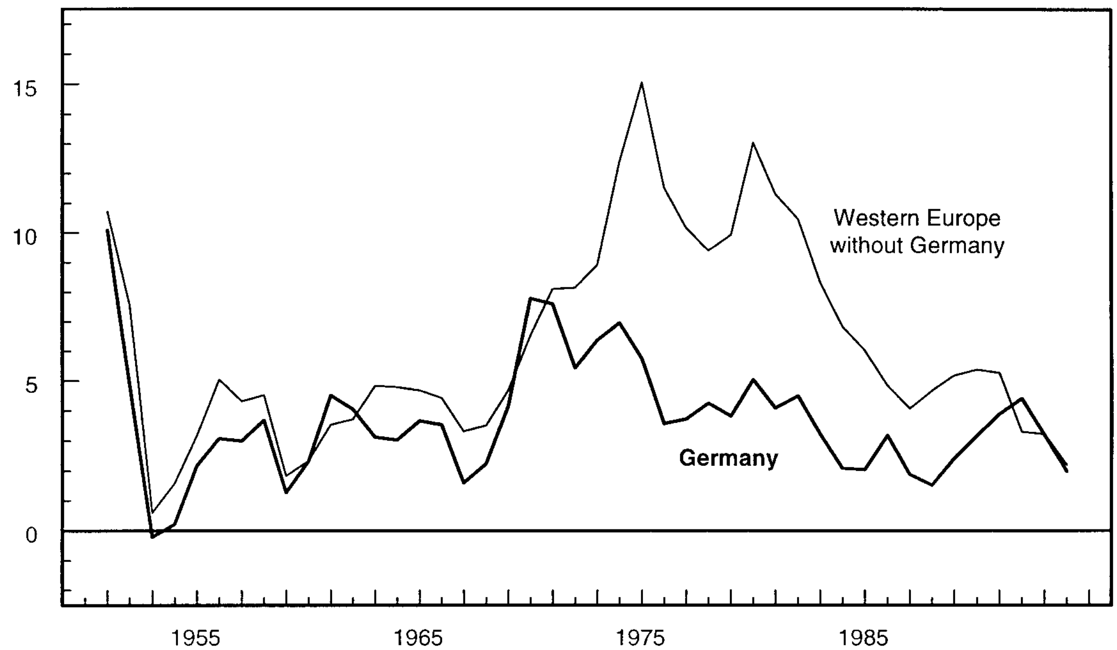


1 The years refer to the first quarter.

II At current prices. – **III** Unit labor costs: Gross wages in current prices relative to GDP at constant prices. – **IV** Goods and services. – **V** Including the social security system. – **VI** Gross wages including employers' social security contributions per employee as percent of net domestic product at factor cost per person employed. – **VIII** Goods and services. – **IX** The long-term rate refers to government bonds with maturity of ten years. – **X** Nominal long term interest rate minus the arithmetic average of the rate of inflation of the four preceding quarters. – **XI** DM vis-à-vis the US-Dollar; the real exchange rate is adjusted for the change in consumer prices. – **XII** GDP per man-hour; five-quarter moving average.

Sources: DIW, *Quarterly National Accounts database*; Deutsche Bundesbank, *Beihefte zu den Monatsberichten, computer tapes*; author's own calculations.

Graph 2 *The Postwar Inflation in Germany*[1], *Western Europe*[2] *and the USA, 1951-1994* (rate of change of the GDP deflator; in percent)



1 West Germany. – **2** Austria, Belgium, Denmark, Finland, France, Italy, Netherlands, Norway, Sweden, Switzerland, UK, without Germany; weighted with each country's share of total GDP, measured at purchasing power parities, in each year. Sources: OECD, *National Accounts*; author's own calculations.

Literature

Abelshauser, Werner. 1983. *Wirtschaftsgeschichte der Bundesrepublik Deutschland, 1945-1980* Frankfurt/M: Suhrkamp.

Abramovitz, Moses. 1979. "Rapid growth potential and its realization: the experience of capitalist economies in the postwar period." In: Edmond Malinvaud, ed., *Economic Growth and Resources, Vol. 1*. New York: St. Martin's Press, pp. 1-30;

Allsopp, Christopher. 1982. "Inflation." In: Boltho 1982, pp. 72-103.

Armstrong, Phillip, Andrew Glyn and John Harrison. 1991. *Capitalism Since 1945*. Oxford: Basil Blackwell.

Balassa, Bela. 1964. „The purchasing-power parity doctrine: a reappraisal," *Journal of Political Economy 72:* 584-596

Baumol, William J. et al., eds., 1994. *Convergence of Productivity: Cross-National Studies and Historical Evidence*. Oxford/New York: Oxford University Press.

Bergmann, Joachim, Otto Jacobi and Walther Müller-Jentsch. 1979. *Gewerkschaften in der Bundesrepublik, Vol. 1: Gewerkschaftliche Lohnpolitik zwischen Mitgliederinteressen und ökonomischen Sachzwängen*. Frankfurt/New York: Campus.

Boltho, Andrea, ed., 1982. *The European Economy: Growth & Crisis*. Oxford: Oxford University Press.

Börnsen, Ole, Hans H. Glismann and Ernst-Jürgen Horn. 1985. *Der Technologietransfer zwischen den USA und der Bundesrepublik.* Tübingen: J.C.B. Mohr.

Bruno, Michael and Jeffrey D. Sachs. 1985. *The Economics of Worldwide Stagflation.* Cambridge, MA: Harvard University Press-

Deutsche Bundesbank, ed., 1976. *Währung und Wirtschaft in Deutschland 1876-1975.* Frankfurt/M: Fritz Knapp.

DIW (Deutsches Institut für Wirtschaftsforschung). 1977. *Daten zur Entwicklung des Produktionspotentials, des Einsatzes von Arbeitskräften und Anlagevermögens sowie der Einkommensverteilung in den Wirtschaftsbereichen in der Bundesrepublik Deutschland*, 1950-1975. Berlin 1977.

Eichengreen, Barry. 1993. "Epilogue: three perspectives on the Bretton Woods system." In: Michael D. Bordo and Barry Eichengreen. eds., *A Retrospective on the Bretton Woods System: Lessons for International Monetary Reform.* Chicago: University of Chicago Press, pp. 634-639.

Emminger, Otmar. 1977. "The D-Mark in the conflict between internal and external equilibrium 1948-1975." *Princeton Essays in International Finance No. 122.*

Flanagan, Robert J., David W. Soskice and Lloyd Ulman. 1983. *Unionism, Economic Stabilization, and Income Policies: European Experience*. Washington, D.C.: Brookings Institution.

Flora, Peter et. al. 1987. *State, Economy, and Society in Western Europe 1815-1975, Vol. II* . Frankfurt/M: Campus.

Gerstenberger, Wolfgang. 1980. „Absatz und Faktorpreise als Determinanten der Investitionsausgaben." *Ifo-Studien 26:* 79-97.

Giersch, Herbert, Karl-Heinz Paqué and Holger Schmieding. 1992. *The Fading Miracle: Four Decades of Market Economy in Germany.* Cambridge, U.K.: Cambridge University Press.

Hennings, Klaus Hinrich. 1982. "West Germany." In: Boltho 1982, pp. 470-501.

IMF (International Monetary Fund). 1995. "Policies for sustained growth in industrial countries," *World Economic Outlook, May 1995:* 9-34.

Kloten, Norbert, Karl-Heinz Ketterer and Rainer Vollmer. 1985. "West Germany's Stabilization Performance." In: Lindberg/Maier 1985, pp. 353-402.

Lindberg Leon N. and Charles S. Maier, eds., 1985. *The Politics of Inflation and Economic Stagnation: Theoretical Approaches and International Case Studies.* Washington, D.C.: Brookings Institution.

Lindlar, Ludger. Forthcoming. *Das mißverstandene Wirtschaftswunder: Westdeutschland und die westeuropäische Nachkriegsprosperität.* Tübingen: J.C.B. Mohr.

— and Carl-Ludwig Holtfrerich. 1996. *Four Decades of German Export Expansion – an Enduring Success Story?* (Deutsches Institut für Wirtschaftsforschung, Diskussionspapier Nr. 130). Berlin.

Maddison, Angus. 1991. *Dynamic Forces in Capitalist Development: A Long-Run Comparative View.* Oxford: Oxford University Press.

McCracken, Paul, Cuido Carli, Herbert Giersch, Attila Karaosmanoglu, Ryutaro Komiya, Assar Lindbeck, Robert Marjolin and Robin Matthews. 1977. *Towards Full Employment and Price Stability: Report to the OECD by a Group of Independent Experts.* Paris: OECD.

Müller-Jentsch, Walther and Hans-Joachim Sperling. 1978. "Economic development, labour conflicts and the industrial relations system in West Gemany." In: Colin Crouch and Alessandro Pizzorno, eds., *The Resurgence of Class Conflict in Western Europe Since 1968, vol. 1: National Studies.* London: Macmillan, pp. 257-306.

Nordhaus, William. 1972. "The world-wide wage explosion." *Brookings Papers on Economic Activity No. 2/1972:* 431-465;

Sachs, Jeffrey D. 1979. "Wages, profits, and macroeconomic adjustment: a comparative study," *Brookings Papers on Economic Activity No. 2/1979: 269*-319.

Scharpf, Fritz W. 1991. *Crisis & Choice in European Social Democracy.* Ithaca, N.Y.: Cornell University Press.

Soskice, David. 1978. "Strike waves and wage explosions, 1968-1970: an economic interpretation." In: Colin Crouch and Alessandro Pizzorno, eds., *The Resurgence of Class Conflict in Western Europe Since 1968, vol. 2: Comparative Analysis.* London: Macmillan, pp. 221-246.

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